

TENNESSEE DEPARTMENT OF HEALTH AND ENVIRONMENT
DIVISION OF RADIOLOGICAL HEALTH

**INSTRUCTIONS FOR PREPARING APPLICATION FOR CERTIFIED REGISTRATION
FORM RHS 8-8**

An applicant for a Certified Registration to use an accelerator must complete Form RHS 8-8 and must attach to the completed form the additional information indicated. Two copies of the entire application

should be sent to the Division of Radiological Health, Tennessee Department of Health and Environment, T.E.R.R.A. Building, 150 9th Ave. N., Nashville, Tennessee 37219-5405.

EXPLANATION OF FORM RHS 8-8

Item No.

1. (a) Identify the legal entity in whose name the Certified Registration should be issued and who is to be legally responsible for the use of the accelerator.

(b) Check appropriate block indicating organizational structure of applicant.

2. List previous Certified Registrations by number. If the application is for renewal or amendment of an existing Certified Registration, the Certified Registration number should be included and the word "renewal" or "amendment" inserted.

3. List all locations at which the accelerator will be used. The name and location at which the accelerator will be used on a permanent basis should be identified by the street address, city and state.

4. List the information called for at the head column for the accelerator to be used. Follow the alphabetical keying system provided on any supplemental sheets which are attached to the application.

5. Unless otherwise specified, information which has been previously submitted to the State may be referred to by date of the document transmitting that information.

(a) Describe the facilities which have been established for the accelerator. Where a room or rooms have been constructed for this purpose, blueprints should be included which describes dimensions of the room, including wall thickness and materials of construction; areas adjacent to, above, and below the facility; area security safeguards such as locks, posting signs, warning lights, and interlocking systems; position of operator relative to exposure points; and beam positioning limitations which may be necessary to maintain control of radiation levels external to the facility. Each requirement in 1200-2-9-17(4) should be specifically addressed and submitted as part of your facilities description.

The applicant should determine the anticipated radiation levels in areas adjacent to the facility in order to establish the necessary control over areas in which radiation levels may exceed the limitations contained in 1200-2-5-07.

(b) Describe the radiation detection instrumentation

which will be used. Each instrument should be identified by the name of its manufacturer and model number; the type of radiation detected; the sensitivity range in mr/hr; the number of such instruments available; and the intended use. The applicant should refer to the radiation survey instrument requirements of Chapter 1200-2-9 and/or Chapter 1200-2-8.

(c) Describe the procedures to be followed for calibration of radiation survey instruments. If instruments will be calibrated by an outside service organization, that organization should be identified by name and address. The applicant should refer to Chapter 1200-2-8 and/or Chapter 1200-2-9.

(d) Identify the organization that will supply film badges and list the name and model number of pocket dosimeters or pocket chambers to be used.

(e) Attach a copy of the operating and emergency procedures in the form in which they will be supplied to operating personnel. Specific requirements on the content of operating and emergency procedures are contained in Chapter 1200-2-9. Be sure to include instructions to personnel on all applicable items.

(f) Attach a schedule or description of the program for training of operators and radiographers or radiographers assistants, as applicable. The schedule or description must contain the information required by Chapter 1200-2-9 regarding training programs and must be in sufficient detail to demonstrate that individuals completing the program will meet the requirements for operators in Chapter 1200-2-9 and radiographers or radiographers assistants outlined in Chapter 1200-2-8, as applicable.

(g) Describe the internal inspection system or other management control which will be exercised to assure that State regulations; provisions contained in the Certified Registration; and the operating and emergency procedures are followed by operators, radiographers and radiographers assistants, as applicable. Refer to Chapters 1200-2-9 and 1200-2-8.

(h) Attach a description of the overall organizational structure pertaining to the accelerator program as it will be conducted under the Certified Registration. This must include specific delegations of authority and responsibility for operation of the program. For medical use please provide verification of board certification and experience. Refer to Chapter 1200-2-9.

Shielding Notes:

- I. In order for the Division to decrease the amount of time necessary for the review of the Shielding Material that is provided concerning an application for a Certified Registration, please provide answers to each of the following questions for each individual point of measurement:
 1. Please provide the installed or proposed barrier thicknesses.
 2. Please specify if the point being analyzed is a secondary or primary point.
 3. Please specify the distance between the point of measurement and the target. Unless otherwise specified we will assume the distance between the isocenter and the point of measurement to be 1 meter less than the distance between the point of measurement and the target.
 4. Please indicate the location of the measuring point on a floor plan. If this is a ceiling or floor point please note this on the floor plan.
 5. Please specify the percentage of time, (use factor), that the beam will be in each direction.

The above data, except for the floor plan, should be presented in the form of a chart identifying each measuring point and its specific data.

- II. Please specify the following data for each accelerator on this application:
 1. Total weekly workload.
 2. Does the accelerator have a beam stop? If it does then, please provide the beam stop transmission ratio.
 3. The MeV of the Accelerator
 4. Please specify the percent tubehead leakage. If this is not specified we will assume .1% giving a transmission ratio of .001%.
 5. Please specify the percent neutron leakage. This only applies to accelerators that operate at greater than 10MeV.
- III. Please provide a copy of your calculations for all of the above measuring points. This should enable us to locate any discrepancies between your calculations and ours.